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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,591	11/18/2005	David Alun James	215.004US01	1465
34206 7590 09/25/2008 FOGG & POWERS LLC 10 SOUTH FIFTH STREET SUITE 1000 MINNEAPOLIS, MN 55402				
EXAMINER				
WHITTINGTON, KENNETH				
ART UNIT		PAPER NUMBER		
2862				
NOTIFICATION DATE		DELIVERY MODE		
09/25/2008		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketing@fogglaw.com

### Office Action Summary

**Application No.**

10/531,591

**Applicant(s)**

JAMES ET AL.

**Examiner**

KENNETH J. WHITTINGTON

**Art Unit**

2862

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 July 2008.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-29 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-10, 14, 17, 18, 27 and 28 is/are rejected.  
7) ☒ Claim(s) 11-13, 15, 16, 19-26 and 29 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 15 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

The Amendment and Terminal Disclaimer filed July 9, 2008 have been considered.

#### ***Terminal Disclaimer***

The terminal disclaimer filed on July 9, 2008 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of US7298137 has been reviewed and is NOT accepted. An attorney or agent, not of record, is not authorized to sign a terminal disclaimer in the capacity as an attorney or agent acting in a representative capacity as provided by 37 CFR 1.34 (a). See 37 CFR 1.321(b) and/or (c).

The Attorney who signed the Terminal Disclaimer, Scott V. Lundberg, is not currently an attorney of record in this application and thus the Terminal Disclaimer is improperly signed and not accepted.

#### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422

F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-10, 14, 17, 18, 27 and 28 remain rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 5 of U.S. Patent No. 7298137 ('137) in view of Dames et al. (US5814091), hereinafter Dames. Claim 5 (which includes the features of claim 1) discloses or teaches all the features of claim 1 of the present application, including an analyzer to receive the coupled signals from the excitation windings, except for an explicit reference to any sense coil. However, it is well known in the art for such magnetic coupling sensors to have sense coils as taught in Dames (See Dames FIGS. 2-4, note sense windings 15). It would have been obvious to use a sense winding in the resonant position sensor claimed in the '137 patent as taught by Dames. One having ordinary skill in the art would do so because such apparatus such as that recited in '137 requires a sense coil to measure the coupling and accordingly a phase shift for position measurement.

Regarding claims 2-10 and 14 of the present application, they are either explicitly disclosed or simply properties of the apparatus of claim 5 (including claim 1) of '137.

Regarding claims 17, 18, 27 and 28, it is noted that since the noted combination of '137 in view of Dames teaches the structural features of these claims, it would have been obvious at the time the invention was made to optimize the frequency of the

second and/or third signal because optimizing a result oriented variable is simply routine skill in the art. See MPEP 2144.05(II).

***Allowable Subject Matter***

Claims 1-29 would be allowable over the prior art if a proper Terminal Disclaimer were filed to overcome the above noted Double Patenting rejection.

The following is a statement of reasons for the indication of allowable subject matter: the prior art does not show or teach the use of an excitation winding comprising a plurality of coils having different spatial functions in combination with the mixing of the second signal and received signal as recited in the claims and in combination with the other features of the claims.

Claims 11-13, 15, 16, 19-26 and 29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. This is an alternate option to filing the terminal disclaimer noted above.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 11 and 12, the prior art does not show or teach position determination in two or more dimensions in combination with the reasons outlined above with respect to claims 1-29 (See reasons for allowable subject matter if Terminal Disclaimer is filed and proper) and in combination with the other features of the claims.

Regarding claim 13, the prior art does not show or teach generating an excitation signal different from the resonant frequency for noise determination in combination with the reasons outlined above with respect to claims 1-29 and in combination with the other features of the claim.

Regarding claims 15 and 16, the prior art does not show or teach the excitation coils comprising a pair of coils producing fields in quadrature relationship in combination with the reasons outlined above with respect to claims 1-29 and in combination with the other features of the claims.

Regarding claims 19 and 20, the prior art does not show or teach the excitation signal comprises a pair of signals in time quadrature in combination with the reasons outlined above with respect to claims 1-29 and in combination with the other features of the claims.

Regarding claim 21, the prior art does not show or teach a filter to remove the components as recited in the claim in combination with the reasons outlined above with respect to claims 1-29 and in combination with the other features of the claim.

Regarding claims 22 and 24, the prior art does not show or teach the signal processor generating the reference signal for phase determination as recited in the claims and for the reasons outlined above with respect to claims 1-29 and in combination with the other features of the claims.

Regarding claim 23, the prior art does not show or teach the comparator with the noted functions in combination with the reasons outlined above with respect to claims 1-29 and in combination with the other features of the claim.

Regarding claims 25, the prior art does not show or teach the use of co-planar coils in combination with the reasons outlined above with respect to claims 1-29 and in combination with the other features of the claim.

Regarding claims 26, the prior art does not show or teach the use of a digital excitation signal in combination with the reasons outlined above with respect to claims 1-29 and in combination with the other features of the claim.

Regarding claims 29, the prior art does not show or teach storing the calibration data for converting the phase of the third signal in combination with the reasons outlined above with respect to claims 1-29 and in combination with the other features of the claim.

### ***Response to Arguments***

Applicant's arguments filed July 9, 2008 have been fully considered but they are not persuasive. Applicants have submitted that the Terminal Disclaimer renders moot the Double Patenting Rejections noted above. However, because the Terminal Disclaimer was not signed by an authorized person, i.e., an Attorney of Record, the Double Patenting rejections remain.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KENNETH J. WHITTINGTON whose telephone number is (571)272-2264. The examiner can normally be reached on Monday-Friday, 7:30am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Assouad can be reached on (571) 272-2210. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kenneth J Whittington/  
Primary Examiner, Art Unit 2862